FTS2000
DATA NETWORKING ALTERNATIVES SUMMARIES

DEDICATED TRANSMISSION SERVICE (DTS)

FTS2000's Dedicated Transmission Service provides a solution for transmitting large volumes of data or voice calls over dedicated facilities on a continual basis between two locations.

There are a variety of service options including Dedicated Analog lines at 4.8 and 9.6 kbps, Dedicated Digital Service providing synchronous transmission at 9.6, 56 and 64 kbps and Dedicated T1 and T45 service offering high speed bulk data transfer.

Offered on a fixed monthly charge, the service is available for your agency's use exclusively 24 hours a day. Regardless of usage volumes, the pricing remains the same which may be an advantage for budgetary purposes over other usage-sensitive alternatives. The fixed cost may be ideal for locations requiring continual data transmission, the general assumption being at least 6 hours per day.

Disadvantages of DTS over other alternatives such as Frame Relay is the lack of traffic information which can provide usage data for an agency to make informed decisions on sizing. DTS is also distance sensitive. Generally, the greater the distance between the end points of the circuit, the greater the cost. In addition, the ability to operate in a meshed environment, with full office-to-office connectivity, is unavailable without additional dedicated facilities being installed between each location. Each point-to-point circuit requires separate terminations at each end, adding to the investment in equipment.

THE BRIEFING PACKAGE FOR DTS IS AVAILABLE UPON REQUEST FROM POC

PACKET SWITCHED SERVICE (PSS)

FTS2000's PSS is a cost-effective and reliable data transmission option to link geographically dispersed locations having a variety of software, speeds, terminal equipment and protocols. Ideal for sites having "bursty", rather than continuous traffic, the service transmits information in "packets" which are routed through the network and then reassembled at the destination.

This technology consists of multiple virtual circuits instead of dedicated resulting in increased utilization and decreased costs. PSS employs a variety of access options including dial-up and dedicated access up to 9.6 kbps.

Although the maximum speed for PSS is 56 kbps the overhead required will probably result in 32 kbps throughput at best. While it is a viable solution for a starting point, its advantages may be offset by low speeds and limited throughput.

FRAME RELAY

FTS2000's Frame Relay service or Enhanced Packet Switched Service (EPSS) is ideally suited for file transfer, imaging, graphics, electronic mail, CAD/CAM as well as other emerging applications. Frame relay service is an evolutionary service from the existing X.25 packet switched protocol, offering higher throughput and lower delay in data transmissions.

Pricing consists of three elements - access, port, and CIR or permanent virtual connections.

With access methods ranging from 56 kbps to T1.5 service, frame relay's key advantage is its ability to "burst" traffic above the committed information rate (CIR) when needed. In a nutshell, what this means to an agency is the capability to transmit data traffic at higher speeds without paying the cost of dedicated service on a continual basis.

One of the advantages of frame relay service is its' ability to operate efficiently in a fully "meshed" environment, permitting office to office communication with a single termination at each site. The added equipment expense and potential bottlenecks of dedicated circuits between each and every location is eliminated. Requiring only a single interface at the District office, or hub, frame relay offers a cost effective alternative to dedicated private line services.

The management information reports available with this service will provide overall usage and performance measurements as well as specific traffic data such as spikes, retransmissions and errors. These valuable reports allow an agency to manage their network and make educated decisions on sizing and bandwidth requirements.

It is important to note that frame relay is distance insensitive. The cost of transmitting the same data across town or across the country is no different.

Some key enhancements to FTS2000's frame relay service include dial-up access at speeds ranging from 19.2 to 28.8 kbps (a critical advantage for the Corps of Engineers' District office applications), Internet connectivity and disaster recovery applications.

THE BRIEFING PACKAGE FOR FRAME RELAY IS AVAILABLE UPON REQUEST FROM POC

DIAL-UP SERVICE

Dial-up service options under FTS2000 include access utilizing Switched Voice Service (SVS), Virtual On-Net (VON), or Switched Data Service (SDS). SVS and VON service will permit transmission of voice and analog data up to 9.6 kbps while SDS handles traffic at 56 or 64 kbps on a point-to-point basis between on-net locations.

Dial-up or switched service provides a cost-effective method for data transmission where traffic does not justify a dedicated connection. Charges for FTS2000 switched services are usage sensitive based on time of day and the distance between access areas.

Applications often used for SDS include intermittent bulk data transfer (i.e. payroll, graphics), back-up for peak time overflow from DTS facilities, video conferencing and disaster recovery.

REMOTE SITE NETWORK CONNECTIVITY (RSNC)

RSNC allows locations to access the FTS2000 network where no Local Exchange Company (LEC) facilities exist or are technically insufficient to meet agency requirements. With RSNC, remote locations can access SVS, DTS and PSS.

RSNC provides a low cost fully digital network solution for low capacity telephone service. Using VSAT (Very Small Aperture Terminal) satellite technology and interfaces to the FTS2000 terrestrial network, RSNC can support simultaneous two-way data and voice applications.

The VSAT dishes are available in 1.2, 1.8 and 2.4 meters and can be ordered for permanent (fixed) installation or fly-away (portable) mode. Configurations for both Star (hub/remote) and Mesh (hubless) are included under the FTS2000 contract.

Basic price elements include Feature Initiation Charges (non-recurring) for the VSAT unit, associated equipment and host interface and monthly recurring charges for the space segment (network services) and maintenance. A thorough technical design and site surveys based on an agency's or location's specific requirements are needed to develop a feasible configuration and pricing.

Specifically, RSNC is ideally suited for areas having permanent physically diverse access requirements for FTS2000 (i.e. river, mountaintops), emergency communications and portable backup for natural disasters (i.e. hurricanes). The key disadvantage of limited bandwidth (currently 128 kbps) is offset by its unique niche-oriented applications.

THE BRIEFING PACKAGE FOR RSNC IS AVAILABLE UPON REQUEST FROM POC